TECHNICAL REVIEW DOCUMENT
for Significant Permit Modification 0f
OPERATING PERMIT 03OPAD257

to be issued to:

Tri-State Generation & Transmission Association, Inc.
Frank Knutson Station

Adams County
Source ID 0011349

Prepared by Cathy Rhodes
May, 2006

I. Purpose:

This document establishes the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during review of the proposed permit by the EPA, the Public and other interested parties. Conclusions made in this report are based on information provided by the applicant in the Title V significant permit modification application received February 9, 2006, subsequent additional information submittals, and review of Division files. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

II. Source Description:

This facility consists of two combustion turbine generators (CTGs) configured to operate in a simple-cycle mode (exhaust directly to the atmosphere). Each turbine has a nominal design rate of 840.3 mmBtu/hour (natural gas) and 905.8 mmBtu/hour (distillate fuel oil). There is one fuel oil storage tank. The facility is defined under Standard Industrial Classification 4911.

The facility is located at 13501 Powhaton Road in Commerce City, Adams County. The area is classified as attainment/maintenance for 1-hr ozone/VOC, carbon monoxide, and particulate matter less than 10 microns in size (PM_{10}) Under that classification, all SIP-approved requirements will continue to apply in order to prevent backsliding under the provisions of Section 110(1) of the Federal Clean Air Act. Note that the entire 1-hr ozone/VOC attainment/maintenance area is also part of the 8-hr Ozone Control Area as

defined in Regulation No. 7, Section II.A.16. The facility is considered to be a synthetic minor source for Prevention of Significant Deterioration purposes.

Facility wide emissions are as follows:

Pollutant	Facility Potential to Emit (tons/yr)
NOx	244.1
CO	134.7
SO_2	61.7
VOC	3.1
PM	68.5
PM_{10}	68.5
HAPs*	4.8

Potential to Emit is based on permitted emission limits.
*HAPs consist mainly of acetaldehyde, formaldehyde, and manganese.

Rocky Mountain National Park is a Federal Class I designated area within 100 kilometers of this facility. There are no affected states within 50 miles of this facility.

This facility certified within the Title V permit application they are not subject to 112(r), the Accidental Release Requirements.

III. Discussion of Requested Modification

The original construction permit and operating permit was issued with a NOx emission limit of 99.0 tons/year. At the time of initial permit issuance the area in which the facility is located was designated as nonattainment for PM_{10} and CO. Under that designation, sources which emitted more than 100 tons/year of NOx or CO were considered to be major sources (because NOx is a precursor of PM_{10} emissions). As of October 16, 2002, the area has been redesignated as attainment/maintenance for PM_{10}. In addition, as of January 14, 2002 the area has been redesignated as attainment/maintenance for CO. Under this designation, sources may increase their emissions up to the Prevention of Significant Deterioration (PSD) threshold of 250 tons/year before being considered major sources. Other nonattainment requirements such as RACT remain in effect in order to avoid backsliding under the provisions of Section 110(1) of the Federal Clean Air Act. The applicant made application to increase the NOx emission limit to 244.1 tons/year and CO emissions of 134.7 tons/year, as well as increases for the other criteria pollutants and HAPs, and a revised Construction Permit was issued on April 6, 2005. At the new NOx limit, the facility will remain a synthetic minor source for PSD purposes. The fuel use limits were also increased. No physical changes are made to the facility in order to accommodate this increase in emissions or fuel use.

The analysis for the revised Construction Permit included Reasonably Available Control Technology (RACT) determinations for PM_{10}, NOx, CO and VOC at the new emission rates. No changes from the original RACT determinations were made for PM_{10}, NOx, and VOC. For CO, the Division determined a new RACT limit based on an hourly ppm limit instead of the original lb/mmBtu annual limit, to be consistent with the short term

ambient standards. The Division determined that for the increased emission rate, catalytic oxidation still represents RACT for these turbines. The Division has determined the RACT CO emission limits for these turbines to be 15 ppm (1 hour average) for natural gas use and 25 ppm (1 hour average) for fuel oil use. The revised Construction Permit analysis determined that RACT for SO_2 is the use of fuel oil with a sulfur content of 0.05 percent by weight or less. The revised Construction Permit and associated RACT determinations underwent public notice. For this operating permit modification, the permittee requested an increase in allowed tuning, fuel switching and testing hours from 60 to 100 hours per calendar year, to account for increased demand and operation.

This modification to the operating permit incorporates the revised Construction Permit emission and fuel use limits and CO and SO_2 RACT determinations. No changes are made to the monitoring requirements due to this modification. Because the requested NOx emission limit is within 10% of the PSD threshold of 250 tons/year, the source is required to track NOx emissions from insignificant activities, to ensure PSD is not triggered at the facility. No other new applicable requirements are triggered due to this modification.

The following additional modifications are made to the operating permit to reflect current Division policy and permit language:
Regulation No. 3 citations are revised throughout to reflect the new regulation format.
Section I
Condition 1.1 – Revise area designation language to include the 8-hour ozone designation.
Condition 1.4 – Delete state only reference for Section V, Condition 3(g). The EPA has approved the SIP revision containing this provision.
Condition 2 – Update to reflect most current turbine replacement AOS.
Condition 3 – Revised to reflect current Division language.
Condition 5 - The requirements set forth in 40 CFR Part 64, as adopted by reference into Colorado Regulation No. 3, Part C, Section XIV, require emission points that use a control device to meet an emission limit or standard, and which have pre-controlled emissions equal to or greater than major source thresholds to submit a CAM plan. Sources for which a Title V application was deemed administratively complete prior to April 20, 1998 are not subject to the CAM requirements until renewal or if a significant permit modification is made that affects a large unit. When a significant permit modification is made, CAM only applies to “large pollutant specific emissions units,” which are units which use a control device to meet an emission limit, and for which controlled emissions are greater than 100 tons/year of a criteria pollutant for which a limit applies, or 10 tons/year of a HAP. The turbines at this facility are equipped with water injection to control NOx emissions during fuel oil use and a catalyst to control CO emissions. Controlled emissions of both of these pollutants are greater than 100 tons/year, however, those units which already employ continuous emission monitors are not subject to the CAM provisions. Therefore, CAM does not apply to this facility. Condition 5 is revised to reflect this determination.
Section IV
Update regulatory cite.
Section V
Update to include latest version.
Appendices B and C

Update to include latest versions.